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ABSTRACT

A general service delivery needs assessment was conducted in the Oklahoma City metropolitan area to determine a need for a cooperative inter-district delivery system for low incidence handicapped students. Secondary hearing impaired students were the primary focus of the study. Data obtained via needs assessment questionnaires from 20 school districts indicated that 939 of 132,374 students, or .71% were handicapped in the following low incidence categories (numbers and percentages): severely emotionally disturbed, 377 or 40%; multi-handicapped, 289 or 31%; hearing impaired, 207 or 22%; visually handicapped, 61 or 6%; and deaf/blind, 5 or 1%. The majority of the secondary hearing impaired students may be characterized as: being white males; having speech impairments; manifesting severe and profound hearing losses; receiving instruction at intermediate and junior high levels; and using hearing aids. About one-quarter were receiving no instructional support services. Cost differentials for hearing impaired students between smaller and larger districts was demonstrated by the following figures: actual per pupil cost ranged from $6935 to $3817; average cost moved from $7500 to $4500; a smaller district's cost was 1.81 times the cost encumbered by a larger district; and the middle size districts' cost was 1.30 times that encumbered by the large districts. An inter-agency cooperative is recommended which could reduce costs and increase academic acheivement via greater utilization of instructional equipment, and support services such as tutors, interpreters, and audiological and speech pathology services. A similar study giving increased focus to the other low incidence handicapping areas is also recommended. (Author/CL)

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ED264675

Oklahoma Directors Metro OD Area Of Special Services

Needs Assessment

Of

DEPARTMENT OF EDUCATION Special Education Section OKLAHOMA

Low Incidence Handicapped Children

In The Oklahoma City Metro Area

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August 1985

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Foreword

Oklahoma City metro area Directors of Special Services recognized the need for a metro area data base on low incidence handicapped students for appropriate placement purposes and metro area planning. A grant proposal was submitted and was funded by the Oklahoma State Department of Education for the purpose of determining if a need existed to design and implement a cooperative inter-district delivery system for low incidence handicapped students, specifically secondary hearing impaired students.

Upon funding of the grant, a search was initiated for a coordinator with demonstrable expertise in: research, knowledge/experience in teaching handicapped students, planning, organizational, and interpersonal skills. Accordingly, the project coordinator was selected.

The publication of this research identifying a cost and student characeristic data base, upon which recommendations are made for an inter-agency cooperative, is an educational milestone. This research reveals enrollment trends and can be of invaluable assistance in educational planning and programming for severely emotionally disturbed, hearing impaired, visually handicapped, multi-handicapped, and deaf/blind students. The data could be utilized in the development of a metropolitan cooperative inter-agency service delivery system model. Advantages, barriers, and suggestions for formulating cooperatives are enumerated. Also, a formula and utilization of a cost ratio for determining transfer/tuition fees is proposed.

An endeavor of this magnitude would not have been possible without the cooperation and support of many individuals. A special thanks is due Oklahoma State Department of Education personnel for funding the grant. Appreciation is expressed to Special Education Section Administrators of the State Department of Education for their contributions and support. Also, I would like to recognize the contributions of all metro area ODSS members.

Melba L. Case
1984-85 Regional
Representative of ODSS

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Maybelle C. Hollingshead, Ed.D
Project Coordinator

A project of this scope owes its success to many individual people and school district personnel whose efforts and guidance were indispensable.

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ABSTRACT

A general service delivery needs assessment was conducted in the Oklahoma City metro area in order to determine if a need existed to design and implement a cooperative inter-district delivery system for low incidence handicapped students. Secondary hearing impaired students were the primary focus of the study. Data obtained via needs assessment questionnaires from 20 school districts indicated that 939 of 132,374 students, or .71%, were handicapped in the following low incidence categories (numbers and percentages): severely emotionally disturbed, 377 or 40%; multi-handicapped, 289 or 31%; hearing impaired, 207 or 22%; visually handicapped, 61 or 6%; and deaf/blind, 5 or 1%. The majority of the secondary hearing impaired students may be characterized as: being white males; having speech impairments; manifesting severe and profound hearing losses; receiving instruction at intermediate and junior high levels; and utilizing hearing aids. About ½ were receiving no instructional support services. Cost differentials for hearing impaired students between smaller and larger districts was demonstrated when: actual per pupil cost moved from a high of $6935 to a low of $3817; average cost moved from $7500 to $4500; a smaller district's cost was 1.81 times the cost encumbered by a larger district; and the middle size districts' cost was 1.30 times the cost encumbered by the large districts. An inter-agency cooperative is recommended which could reduce costs and increase academic achievement via greater utilization of instructional equipment, and support services such as tutors, interpreters, and audiological and speech pathology services. A similar study giving increased focus to the other low incidence handicapping areas is also recommended.

Needs Assessment
Of
Low Incidence Handicapped Children
In The Oklahoma City Metro Area

CHAPTER I

PROJECT DEVELOPMENT

Oklahoma Directors of Special Services (ODSS) in the Oklahoma City metro area increasingly expressed concern in their monthly meetings regarding service delivery to low incidence handicapped children. Their concern stemmed from problems caused by a combination of geography, demography, and low incidence. Oklahoma State Department Special Education Section personnel shared these interests articulated by the ODSS members. As a result, the Low Incidence Needs Assessment Project proposal was developed by a group of metro area directors of Special Services, and was funded by the State Department of Education for the purpose of conducting a general service delivery needs assessment.

A formal needs assessment identified demographic data and educational needs in addition to special educational services received by low incidence handicapped students in the Oklahoma City metro area. This assessment yielded a data base and identified service delivery problems. This information was essential in determining if a need exists to design and implement a cooperative and comprehensive inter-district delivery

system for low incidence handicapped students.

The population of low incidence handicapped students addressed by this project included deaf/blind, visually impaired, hearing impaired, severely emotionally disturbed, and multi-handicapped students. The focus was then narrowed upon hearing impaired students at the secondary level because of the following: the extremely low incidence factor, the need for a wide range of related and interrelated services, and the possibility of this population being served in an inter-district service delivery system.

This report highlights the main findings of the project. Student data and educationally relevant information is presented in order to portray the status of low incidence handicapped students in the Oklahoma City metro area schools.

Methodology

Organizational Structure

Metro area ODSS members and the project director selected a project coordinator and recommended individuals to serve on the advisory committee. The advisory committee, chaired by the coordinator, was composed of: two State Department of Education (SDE) Special Education Section members; five OKC metro area ODSS members; four parents of low incidence handicapped students representative of four LEAs; and one univeristy training professor. The parents represented differing low incidence handicapped students at various educational levels. The advisory committee assisted in designing the assessment instruments and provided input into project activities at the monthly meetings.

Identification of Schools Encompassed by Project

The first task of the advisory committee was the identification of schools which would be included in the metro area needs assessment. Twenty school districts within and adjacent to Oklahoma County were defined as the "Oklahoma City metro area." In order to enlist full participation in the project, the coordinator conducted site visits in 18 of the 20 school districts. Each of the 20 districts elected to participate and cooperate in the project.

Individual Student Questionnaire

The questionnaire (Appendix A) was developed by the advisory committee and addressed the specific data requirements for achieving project objectives. Questionnaires used in the Nebraska (Rawlings, 1982), Louisiana (Rawlings, 1982), and Texas (Rawlings, et al, 1982) surveys served as models and sources for questionnaire items.

All student questionnaires were distributed to the 20 districts by April 15, 1985. Personnel from each district were asked to complete a questionnaire for each student they were responsible for serving in each of the five handicapping areas. This included students being transferred to other LEAs and residential or private school placements. Most of the questionnaires were returned within 3 weeks.

Summary Response Form Questionnaire

This questionnaire (Appendix B) was designed for completion by administrators and was developed in the same manner as the individual student questionnaire. Administrators were requested to identify the total number of students being served, handicapped and non-handi-

capped; and average annual per pupil cost for hearing impaired students only. In addition, they were asked to identify on a map the residential location of each hearing impaired student.

Data Processing

The completed questionnaires were processed by the project coordinator using TRS-80 computers. The program was entered on computer diskettes and validity checked to ensure accuracy.

CHAPTER II

OKC METRO AREA STUDENT DATA, SPRING 1985

Incidence by Handicapping Categories

Of the 20 districts participating in the study, 17 reported low incidence handicapped students. Hearing impaired students were served by 14 of the 17 districts.

Of the 5 low incidence handicapping categories (Table 1), the greatest number of students, 377 or 40%, were reported as severely emotionally disturbed; 289 or 31% were multi-handicapped; 207 or 22% were hearing impaired; and 61 or 6% were visually handicapped. Of the total Oklahoma City metro student population of 132,374, only 939 or .71% were identified as handicapped in the 5 areas addressed by this study.

Within the 20 districts, Oklahoma City was serving 37% of the low incidence handicapped students. Putnam City and Moore served 15% and 14% respectively; Mid Del served 12% of the low incidence population. Tables A-D (Appendix C) present child count data which was taken at one point in time during the school year. Since this project data involved a similar method of reporting student data, reporting techniques lended themselves to data comparisons. Table 2 records a compilation of child count data for the 20 districts taken on December 1 for four consecutive years. Between 1981-1982 and 1984-1985, child count data revealed a 28.49% increase in all five handicapping areas, whereas,

Table 1

Number and Percentage Incidence Distribution of all OKC Metro Area Low Incidence Handicapped Students by Handicap and LEA (Spring 1985).

LEA	Deaf/Blind		Hear Imp.		Multi H.		S.E.D.		Vis. H.		TOTAL	
	n	%	n	%	n	%	n	%	n	%	N	%
Bethany	-	-	-	-	11	85	2	15	-	-	13	1
Choctaw	-	-	6	30	14	70	-	-	-	-	20	2
Crooked Oak	-	-	-	-	-	-	-	-	-	-	-	-
Crutcho	-	-	-	-	3	75	-	-	1	25	4	-
Deer Creek	-	-	2	50	1	25	-	-	1	25	4	-
Edmond	-	-	7	18	13	34	17	45	1	3	38	4
Guthrie	-	-	10	37	5	18	8	30	5	18	28	3
Harrah	1	-	7	-	7	100	-	-	-	-	15	2
Jones	-	-	1	25	3	75	-	-	-	-	4	-
Luther	-	-	-	-	1	100	-	-	-	-	1	-
Mid/Del	-	-	21	19	38	36	48	43	2	2	109	12
Millwood	1	-	1	50	1	50	-	-	-	-	3	-
Moore	2	1	45	33	16	12	65	48	8	6	136	14
Mustang	-	-	6	23	17	65	-	-	3	12	26	3
Oakdale	-	-	-	-	-	-	-	-	-	-	-	-
OKC	-	-	80	23	97	28	144	41	31	9	352	37
Piedmont	-	-	-	-	-	-	-	-	-	-	-	-
Putnam	-	-	16	11	43	30	73	53	8	6	140	15
Western Heights	-	-	1	4	12	50	10	42	1	4	24	3
Yukon	1	5	4	18	7	32	10	45	-	-	22	2
TOTAL	5	1	207	22	289	31	377	40	61	6	939	98

Note. A dash (-) indicates that no students were reported at that level and/or the percentage was less than one-half percent. This usage of the dash is applicable to subsequent tables.

Table 2

Number and Change in Number of OKC Metro Area Children Ages 0-21 Years by Handicapping Condition and Based on Child Count Data as of December 1 of Each School Year

Handicapping Condition	Number				Percent Change in Number Served				
	1981-82	1982-83	1983-84	1984-85	1981-82 1984-85	1981-82 1983-84	1981-82 1982-83	1982-83 1983-84	1983-84 1984-85
Hearing Impaired	89	98	111	129	44.94	24.72	10.11	13.27	16.22
Severely Emotionally Disturbed	281	347	405	374	33.10	44.13	23.49	16.71	-8.29
Multi-Handicapped	263	278	274	308	17.11	4.18	5.70	-1.46	12.41
Visually Handicapped	42	49	54	54	28.57	28.57	16.66	10.20	- 0 -
Deaf/Blind	6	11	13	10	66.66	116.66	83.33	18.18	-30.00

during the same period the hearing impaired population showed a 44.94% increase. For two 2-year overlapping time spans, the rate of increase was less than one-half as much for 1982-83 to 1984-85 (11.75%) when compared to 1981-82 to 1983-84 (24.72%) for all five handicapping areas. The total percent increase in number served in the five areas was as follows: 1981-82 to 1982-83 = 14.98%; 1982-83 to 1984-85 = 9.45%; 1983-84 to 1984-85 = 2.1%. The hearing impaired student category on the child count data was the only group of the five that consistently showed an increase in the number of students served during the 4-year period. The largest percentage gain (15.22%) was recorded between 1983-84 and 1984-85. The only other group recording a gain between those years was the multi-handicapped (12.41%).

Incidence by Instructional Level

Instructional levels included grades 7-8 as Junior High and 9-10 as Mid High (Tables 3-6). Based on standardized and teacher-made tests and observations, school personnel indicated specific instructional levels for the students in each low incidence category. Instructional data was not available for one school district, therefore, student data from that district could not be incorporated into Table 3.

The preschool instructional level of multi-handicapped students represented 84% of all multi-handicapped students for whom levels were reported (Table 4). Most of the 63 students for whom levels were not identified were enrolled in two districts.

In contrast, 74% of the severely emotionally disturbed students (Table 5) for whom levels were reported were served in the primary and

Table 3

Number and Percentage Incidence Distribution of All OKC Metro Area Hearing Impaired Students by Instructional Level and LEA (Spring 1985).

LEA	Pre-School n	Pre-School %	Primary n	Primary %	Intermed. n	Intermed. %	Jr.High n	Jr.High %	Mid High n	Mid High %	Sr.High n	Sr.High %	TOTAL N	TOTAL %	TOTAL[a] N	TOTAL[a] %
Choctaw	-	-	1	17	3	50	2	33	-	-	-	-	6	4	6	3
Deer Creek	-	-	-	-	1	50	-	-	-	-	1	50	2	1	2	1
Edmond	4	57	1	14	2	29	-	-	-	-	-	-	7	4	7	3
Guthrie	7	70	3	30	-	-	-	-	-	-	-	-	10	6	10	5
Harrah	2	29	2	29	-	-	-	-	-	-	3	42	7	4	7	3
Jones															1	0
Mid/Del	4	19	4	19	9	43	-	-	-	-	4	19	21	13	21	10
Millwood	-	-	-	-	-	-	1	100	-	-	-	-	1	1	1	1
Moore															45	22
Mustang	2	33	2	33	1	17	1	17	-	-	-	-	6	4	6	3
OKC	9	11	31	39	10	13	10	13	14	17	6	7	80	50	80	39
Putnam	3	19	5	31	4	25	3	19	-	-	1	6	16	10	16	8
Western Heights	1	100	-	-	-	-	-	-	-	-	-	-	1	1	1	0
Yukon	-	-	3	75	-	-	-	-	1	25	-	-	4	2	4	2
TOTAL	32	20	52	32	30	19	17	11	15	9	15	9	162	100	207	100

Note. A blank space indicates that while the district reported student(s), the information by specific instructional levels was not available. This usage of the blankspace is applicable to subsequent tables.

[a]A second total column was included to reflect percentages obtained (although specific data was unavailable) for the aggregate hearing impaired population since they were the primary focus of the study.

Table 4

Number and Percentage Incidence Distribution of All OKC Metro Area Multi-Handicapped Students by Instructional Level and LEA (Spring 1985).

LEA	Pre-School		Primary		Intermed.		Jr.High		Mid High		Sr.High		TOTAL	
	n	%	n	%	n	%	n	%	n	%	n	%	N	%
Bethany	1	91	-	-	-	-	1	91	-	-	-	-	11	4
Choctaw	10	71	2	14	2	14	-	-	-	-	-	-	14	5
Crutcho													3	1
Deer Creek	1	100	-	-	-	-	-	-	-	-	-	-	1	-
Edmond	11	85	2	15	-	-	-	-	-	-	-	-	13	4
Guthrie	2	67			1	33							5	2
Harrah	7	100	-	-	-	-	-	-	-	-	-	-	7	2
Jones	2	67	-	-	1	33	-	-	-	-	-	-	3	1
Luther	1	100	-	-	-	-	-	-	-	-	-	-	1	-
Mid/Del	36	95	2	5	-	-	-	-	-	-	-	-	38	13
Millwood	-	-	-	-	-	-	1		-	-	-	-	1	-
Moore													16	6
Mustang	13	76	3	18	-	-	1	6	-	-	-	-	17	6
OKC	78	80	11	11	3	3	1	1	2	2	2	2	97	34
Putnam							1						43	15
Western Heights	12	100	-	-	-	-	-	-	-	-	-	-	12	4
Yukon	6	86	-	-	-	-	-	-	1	14	-	-	7	3
TOTAL	189	84	20	9	7	3	5	2	3	1	2	1	289	100
LEVELS NA[a] 66														

[a]Information not available.

Table 5

Number and Percentage Incidence Distribution of All OKC Metro Area Severely Emotionally Disturbed Students by Instructional level and LEA (Spring 1985).

LEA	Pre-School		Primary		Intermed.		Jr.High		Mid High		Sr.High		TOTAL	
	n	%	n	%	n	%	n	%	n	%	n	%	N	%
Bethany	-	-	1	50	1	50	-	-	-	-	-	-	2	0
Edmond	-	-	5	29	4	24	8	47	-	-	-	-	17	5
Guthrie	-	-	2	25	6	75	-	-	-	-	-	-	8	2
Mid/Del	1	2	27	56	14	29	4	8	2	4	-	-	48	13
Moore													65	17
OKC	4	3	55	38	52	36	19	13	9	6	5	3	144	38
Putnam	-	-	29	40	22	30	17	23	2	3	3	4	73	19
Western Heights	-	-	2	20	5	50	2	20	-	-	1	10	10	3
Yukon	-	-	4	40	3	30	-	-	3	30	-	-	10	3
TOTAL	5	2	125	40	106	34	50	16	16	5	9	3	377	100
LEVELS NA 66														

Table 6

Number and Percentage Incidence Distribution of All OKC Metro Area Visually Impaired Students by Instructional Level and LEA (Spring 1985).

LEA	Pre-School		Primary		Intermed.		Jr.High		Mid High		Sr.High		TOTAL	
	n	%	n	%	n	%	n	%	n	%	n	%	N	%
Crutcho													1	2
Deer Creek	-	-	-	-	-	-	1	100	-	-	-	-	1	2
Edmond	1	100	-	-	-	-	-	-	-	-	-	-	1	2
Guthrie	-	-	4	80	1	20	-	-	-	-	-	-	5	8
Mid/Del	1	50	1	50	-	-	-	-	-	-	-	-	2	3
Moore													8	13
Mustang	-	-	-	-	-	-	-	-	3	100	-	-	3	5
OKC	10	32	2	6	10	32	4	13	-	-	5	16	31	51
Putnam	-	-	3	38	2	25	1	13	2	25	-	-	8	13
Western Heights	-	-	1	100	-	-	-	-	-	-	-	-	1	2
TOTAL	12	23	11	21	13	25	6	12	5	10	5	10	61	101
LEVELS NA 9														

intermediate instructional levels. The visually handicapped students (Table 6) were more evenly distributed across each instructional level.

The majority of hearing impaired students, congruent with visually impaired students, were clustered around the primary grades with approximately 70% at preschool, primary, and intermediate instructional levels. Fifty percent of the hearing impaired students' instructional levels were elementary with about 30% being junior high and above. About 80% of the hearing impaired students were served by four districts. Putnam and Mid Del served 18% of this population while Oklahoma City and Moore served 39% and 22% respectively.

Participants by Age

As shown in Table 7, 97% of 737 students under 3 years of age in the 5 handicapping areas were classified as multi-handicapped. Sixty-eight percent of students 3-5 years of age were multi-handicapped with 23% hearing impaired students. Between the ages of 6-9 and 10-13, the number of severely emotionally disturbed students more than doubled with the percentage jumping from 36% to 65%. The percentage of multi-handicapped and hearing impaired students dropped about one-third and one-fourth respectively at this 10-13 age level. Fifty-nine percent of all 14-17 year olds in these five areas were severely emotionally disturbed students. The majority of hearing impaired, severely emotionally disturbed, and visually impaired students listed with information not available came from one school district.

The pattern of age distribution for the total student population in the five areas, as well as for the severely emotionally disturbed and the visually handicapped. indicated a progressive trend of ingress

Table 7

Number and Percentage Incidence Distribution of All OKC Metro Area Low Incidence Handicapped Students by Handicap and Age (Spring 1985).

Age in Years	Deaf/Blind n	Deaf/Blind %	Hear Imp. n	Hear Imp. %	Multi H. n	Multi H. %	S.E.D. n	S.E.D. %	Vis. H. n	Vis. H. %	TOTAL N	TOTAL %
Under 3	-	-	1	3	36	97	-	-	-	-	37	5
3 - 5	-	-	26	23	77	68	5	4	5	4	113	15
6 - 9	-	-	42	23	57	31	66	36	16	9	181	25
10 - 13	1	-	34	16	23	11	140	65	17	8	215	29
14 - 17	-	-	34	22	18	11	93	59	12	8	157	21
18 +	0	0	15	44	4	12	13	38	2	6	34	5
TOTAL	1	0	152	21	215	29	317	43	52	7	737	100
NA	4		55		74		60		9		202	

Table 8

Number and Percentage Incidence Distribution of all OKC Metro Area Low Incidence Handicapped Students by Handicap and Grade Level (Spring 1985).

Grade Level	Deaf/Blind n	Deaf/Blind %	Hear Imp. n	Hear Imp. %	Multi H. n	Multi H. %	S.E.D. n	S.E.D. %	Vis. H. n	Vis. H. %	TOTAL N	TOTAL %
Preschool	-	-	27	14	150	80	3	2	8	4	188	26
K - 3	-	-	44	24	34	19	93	51	11	6	182	25
4 - 6	1	1	30	19	9	6	104	67	12	8	156	22
7 - 9	-	-	22	19	13	11	71	60	12	10	118	16
10 - 12	-	-	25	33	5	7	41	54	5	7	76	11
TOTAL	5	0	148	22	211	30	312	41	48	7	720	100
NA	4		59		78		65		13		219	

into special education through age 13 and then declined thereafter. This correlates with Louisiana research (Rawlings, 1980) relative to hearing impaired and deaf/blind students. The progressive ingress for hearing impaired students in the Oklahoma City metro area continued through age 9 and then enrollment declined.

Unlike the trend for the emotionally disturbed students, the multi-handicapped students demonstrated a progressive ingression into special education (Table 7) through age 5 and a decline thereafter. McNutty, Smith, and Soper (1983), in a study involving 11 Colorado schools, found that one-third of all handicapped children who received special education services through preschool were able to begin public school in regular education with no special education services.

Eighty percent of all preschoolers in the Oklahoma City metro area (Table 8) are served as multi-handicapped students. This data may be indicative of two related trends: 1) increased numbers of preschool age handicapped children are being served as multi-handicapped children, and 2) increased numbers of preschool age children are being identified as having handicapping conditions. The Seventh Annual Report to Congress on the implementation of Public Law 94-142 (US Department of Education,1985) reported an increase in the number of children from birth through age 3 who were identified as multi-handicapped. Recent studies (Lazar, 1979) suggest that preschool programming may be of significant value. Pre-school programming may be impacting the general decline in multi-handicapped enrollment following preschool in the Oklahoma City metro area.

Participants by Grade

Comparisons across grade levels (Table 8) can be made for 720 students with identifiable data. Fifty-one percent of all handicapped students in the 5 handicapping areas were at preschool and K-3 grade levels, whereas, 30% were in grade 4 through 9. Most of the severely emotionally disturbed and hearing impaired students (Table 8) with information not available were from one school district.

Participants by Sex

Information relative to handicap and sex was available for 823 of the 939 total low incidence population (Table 9). The percentage of males to females was 64% to 36% respectively. The extreme predominance of males is due to the unusually high percentage of severely emotionally disturbed males (82%) to females (18%). The percentage of male to female multi-handicapped students was 51% and 49% respectively. The differentiation between the sexes for hearing impaired students was identical except the percentages were reversed. The distribution of sexes for the hearing impaired was congruent for the Oklahoma City metro area and the nation. The records not available for the hearing impaired, severely emotionally disturbed and the visually handicapped students (Table 9) were basically from one district.

Participants by Ethnic Origin

The ethnic backgrounds of 702 of the 939 metro area students are designated in Table 10. Seventy-five percent of all low incidence handicapped students were white, while 19% were black. A notable aspect of Table 10 is that the percentage of incidence for the American Indian (2%)

Table 9

Number and Percentage Incidence Distribution of All OKC Metro Area Low Incidence Handicapped Students by Handicap and Sex (Spring 1985)

Sex	Deaf/Blind n	%	Hear.Imp. n	%	Multi-H n	%	S.E.D. n	%	Vis.H. n	%	TOTAL N	%
Female	1	-	78	30	104	40	56	22	21	8	260	36
Male	-	-	75	16	107	23	251	54	30	6	463	64
TOTAL	1	-	153	21	211	29	307	42	51	7	723	100
Data NA	4		54		78		70		10		216	

Table 10

Number and Percentage Incidence Distribution of All OKC Metro Area Low Incidence Handicapped Students by Handicap and Ethnic Origin (Spring 1985)

Ethnic Origin	Deaf/Blind n	%	Hear.Imp. n	%	Multi-H. n	%	S.E.D. n	%	Vis.H. n	%	TOTAL N	%
White	1	-	98	19	161	31	225	43	39	7	524	75
Black	-	-	36	27	28	21	67	50	2	2	133	19
Hispanic	-	-	6	38	8	50	2	13	-	-	16	2
American Indian	-	-	3	25	3	25	6	50	-	-	12	2
Oriental	-	-	4	50	4	50	-	-	-	-	8	1
Multi-Ethnic	-	-	1	25	1	25	2	50	-	-	4	1
Other	-	-	1	20	4	80	-	-	-	-	5	1
TOTAL	1	-	149	21	209	30	302	43	41	6	702	100
Data NA	4		58		80		75		20		237	

was identical to the Hispanic (2%). Approximately 75% of the multi-handicapped, visually impaired and severely emotionally disturbed students were white while 63.64% of the hearing impaired students were white. It is estimated that black hearing impaired students make up about 15% of the total nationwide hearing impaired population (Ries, Bateman, and Schildroth, 1975) but constitute 23.38% in the metro area.

Transfer of Students

Oklahoma City metro area school districts served 700 of the 733 students for whom data was available (Table 11). Thirty-two students were served in residential schools. Forty-three students were transferred from their resident LEA to another LEA (Table 12). Of those students transferred to another LEA, 51% were hearing impaired and 30% multi-handicapped; of those students transferred to residential schools, 58% were hearing impaired and 33% visually handicapped.

One school district transported a student 80 miles (round trip) to be served by another LEA. This was the greatest distance traveled by any student. Three school districts indicated that students traveled between 30 to 36 miles per day. No school district reported more than an hour in transportation to or from school. Most school districts did not include insignificant numbers of miles that students were transported. The annual average number of miles 27 students were transported was 2,531, with the average annual round trip cost of $591 or 23¢ per mile.

Table 11

Number and Percentage Incidence Distribution of Low Incidence Handicapped Students in the OKC Metro Area by Type of Special Educational Program and Handicap (Spring 1985)

Type of Program	Deaf/Blind n	%	Hear.Imp. n	%	Multi-H. n	%	S.E.D. n	%	Vis.H. n	%	TOTAL N	%
Public School	-	-	136	19	210	30	314	45	40	6	700	95
Residential School	1	3	18	56	2	6	-	-	11	34	32	4
Private School	-	-	-	-	1	100	-	-	-	-	1	-
TOTAL	1	-	154	-	213	-	314	-	51	-	733	99
NA	4		53		76		63		10			

Table 12

Number and Percentage Incidence Distribution of All OKC Metro Area Low Incidence Handicapped Students That Are Transferred From Their Resident LEA To Another LEA For Service By Handicap (Spring 1985)

Transferred	Deaf/Blind n	%	Hear.Imp. n	%	Multi-H n	%	S.E.D. n	%	Vis.H. n	%	TOTAL N	%
Crutcho	-	-	-	-	3	95	-	-	1	25	4	9
Edmond	-	-	7	70	1	10	1	10	1	10	10	23
Jones	-	-	1	33	2	67	-	-	-	-	3	7
Luther	-	-	-	-	1	100	-	-	-	-	1	2
Mid Del	-	-	1	100	-	-	-	-	-	-	1	2
Millwood	1	33	1	33	1	33	-	-	-	-	3	7
Mustang	-	-	3	50	3	50	-	-	-	-	6	14
OKC	-	-	7	78	-	-	2	22	-	-	9	21
Putnam	-	-	1	33	1	33	-	-	1	33	3	7
Western Heights	-	-	1	50	-	-	-	-	1	50	2	5
Yukon	-	-	-	-	1	100	-	-	-	-	1	2
TOTAL	1	2	22	51	13	30	3	7	4	9	43	99

CHAPTER III

EDUCATIONAL PROGRAM AND PERSONNEL

Individualized Education Program Placement

Individualized education programs (IEPs) were reported for 730 students with no IEP reported for one student (Table 13). Seventy-one percent of all IEPs designated self-contained placement. One percent of the 731 low incidence handicapped students were reported being served in regular classes, with 11% served in special day schools.

Ratio of Students to Instructional Personnel

School personnel from each district reported the number of full time equivalent teachers and low incidence handicapped students in the five handicapping areas (Table 14). This report included all students residing in their district. In computing teacher student ratios, the number of students served in residential and private schools was subtracted from the total low incidence population and the total number of students served in each handicapping category.

The ratio of full time equivalent teachers to low incidence handicapped students averaged about 1 teacher for every 8 (7.79) students. The average teacher student ratio for the following categories was: hearing impaired, 1:8 (8.25); multi-handicapped 1:9 (9.26); and visually handicapped, 1:8 (7.69). The category with the highest number of students but the lowest teacher ratio was the severely emotionally disturbed category with 1 teacher for every 7 (6.73) students.

Table 13

Number and Percentage Incidence Distribution of Low Incidence Handicapped Students in the OKC Metro Area by Handicap and Individual Educational Plan Placement (Spring 1985).

Individual Educational Placement	Deaf/Blind n	Deaf/Blind %	Hear Imp. n	Hear Imp. %	Multi H. n	Multi H. %	S.E.D. n	S.E.D. %	Vis. H. n	Vis. H. %	TOTAL N	TOTAL %
Regular Only	-	-	4	50	2	25	-	-	2	25	8	1
Self-Contained	-	-	91	18	152	29	247	48	27	5	517	71
Resource	-	-	27	28	14	14	51	52	6	6	98	13
Itinerant	-	-	5	50	-	-	-	-	5	50	10	1
Hospital Base	-	-	-	-	-	-	-	-	-	-	-	-
Home Base	-	-	1	6	13	72	4	22	-	-	18	2
Special Day School[a]	1	1	25	32	30	38	12	15	11	14	79	11
No IEP on File	-	-	1	100	-	-	-	-	-	-	1	-
TOTAL	1	-	154	-	211	-	314	-	51	-	731	99
NA	4		53		78		63		10		208	

[a]Special day school includes residential school

Table 14

Number of Low Incidence Handicapped Students Enrolled in Each LEA, Current Teacher FTE Level, and FTE Level of Aides for Hearing Impaired Only (Spring 1985).

LEA	Hearing Imp.			TEACHER AIDES	Visually H.			Deaf/Blind			S.E.D.			Multi H.			TOTAL[a]		
	n	FTE	AVE		n	FTE	AVE	n	FTE	AVE	n	FTE	AVE	n	FTE	AVE	n	FTE	AVE
Bethany	-	-	-	-	-	-	-	-	-	-	2	.5	-	11	.5	-	13	1	13.00
Choctaw	6	1.3	4.6	-	-	-	-	-	-	-	-	-	-	14	2	7	20	3.3	6.06
Crooked Oak	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crutcho	-	-	-	-	1	-	-	-	-	-	-	-	-	3	-	-	4	-	-
Deer Creek	2	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	4	-	-
Edmond	7	-	-	-	1	-	-	-	-	-	17	1.5	11.3	13	1	13	38	2.5	11.20[b]
Guthrie	10	.5	20	.5	5	.5	10	-	-	-	8	1	8	5	.5	10	28	2.5	11.20
Harrah	7	1	-	-	-	-	-	1	-	-	-	-	-	7	1	7	15	2	7.50
Jones	1	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	4	-	-
Luther	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-
Mid/Del	21	3	7	1	2	-	-	-	-	-	48	6	8	38	4	9	109	13	8.38
Millwood	1	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	3	-	-
Moore	45	7	6.4	1	8	1	8	2	-	-	65	8	8.1	16	2	8	136	18	7.55
Mustang	6	-	-	2	3	-	-	-	-	-	-	-	-	17	1	17	26	1	26.00[b]
Oakdale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OKC	80	9	1	5	31	4	7.7	-	-	-	144	28	5.1	97	10	97	352	50	7.04
Piedmont	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Putnam	16	2	8	1	8	1	8	-	-	-	73	7	10.4	43	5	8.6	140	15	9.33
Western Heights	1	-	-	-	1	-	-	-	-	-	10	2	5	12	1	12	24	3	8.00
Yukon	4	1	4	.5	-	-	-	1	-	-	10	2	5	7	2	3.5	22	5	4.40
TOTALS	207	22.8	-	11	61	6.5	-	5	-	-	377	56		289	31		939	116.3	

[a]The total number of students reported by each district includes all students (including transfers) residing in the district. With two exceptions, the effect on the average teacher student ratio is minimal (less than one student, i.e., .33).

[b]Edmond and Mustang's average teacher student ratio is 1:11 and 1:17 respectively when transfer students are subtracted from the total number of students. Also, note Mustang's use of two tutors and no teachers in serving hearing impaired students.

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The average teacher student ratio computed for each district should be interpreted cautiously: (1) Severity of handicaps impact average teacher student ratios (i.e., some handicapped students may be totally mainstreamed); (2) the number of students served by each district includes transfer students. With two exceptions, Edmond and Mustang, only minor changes (less than one student, i.e., .33) resulted when transfer students were omitted in computing the average number of students served by one teacher. Edmond and Mustang's average teacher student ratio dropped significantly when transferred students, 10 and 9 respectively, were considered.

Oklahoma City, served approximately 2½ times as many low incidence handicapped students as any of the other districts, and had the lowest student teacher ratio; the average was 1 teacher for every 7 (7.04) students. Moore, serves approximately two-fifths as many low incidence handicapped students as Oklahoma City, and reported a similar student teacher ratio of 1:7 (7.55). Putnam City, with essentially the same number of low incidence handicapped students as Moore, had a student teacher ratio of 1:9 (9.33).

Support Services

Across all categories, the instructional support service recorded more than 2 times as often (42%) as any other type was the use of a tutor or special aide. It was recorded for four of the five low incidence handicapping categories. The use of large print was reported more often (64%) than any other support service for the visually handicapped students. The severely emotionally disturbed students had the lowest student teacher ratio but were provided only nominal support service.

Table 15

Number and Percentage Incidence Distribution of Low Incidence Handicapped Students in OKC Metro Area Receiving Regular Classroom Instruction with Non-Handicapped and Instructional Support (Spring 1985).

Instructional Support Services	Deaf/Blind		Hear Imp.		Multi H.		S.E.D.		Vis. H.		TOTAL	
	n	%	n	%	n	%	n	%	n	%	N	%
Interpreter	-	-	5	63	3	38	-	-	-	-	8	2
Note Taker	-	-	12	86	1	7	1	7	-	-	14	4
Braille	-	-	-	-	-	-	-	-	3	100	3	1
Reader	-	-	-	-	-	-	-	-	1	100	1	-
Recorded Material	-	-	-	-	-	-	4	44	5	56	9	3
Large Print	-	-	-	-	-	-	-	-	23	100	23	7
Tutor of Spec. Aide	-	-	28	67	5	12	5	12	4	10	42	12
Unknown/Not Reported	-	-	14	16	7	8	62	73	2	2	85	24
Other	-	-	51	-	4	-	97	-	14	-	166	47
Total	-	-	110	31	20	6	169	48	52	15	351	100
Number Receiving No Instr. Supp.	1		36		195		133		20		385	
RECORDS NA	2		47		63		65		9		186	

Note. A student may use more than one support service.

[a]Data unavailable from one district across all categories. Partial data unavailable from another district (multi-handicapped only).

CHAPTER IV

HEARING IMPAIRED STUDENT DATA

Audiological Resources

Audiological evaluations of hearing impaired students identified in this study were conducted predominantly by the John Keys Speech and Hearing Clinic, University of Oklahoma Health Sciences Center (Table 16). Of all assessment resources, this clinic was recorded as providing audiological evaluations by 14 of the 15 districts designating assessment data. Four districts utilized the regional service center (27%), a speech-language pathologist (27%), and the services of the John Keys Speech and Hearing Clinic concurrently. Audiological evaluations were not conducted by school psychometrists.

Hearing Impairments by Degree of Loss and Age

In order to portray the extent of the hearing impairments of the metro area students, audiological data is reported for five categories of hearing loss and for six age groupings (Table 17). Categorization of the degree of hearing loss was determined as follows: "a better ear average was calculated by averaging in decibels (db) ISO the reported pure-tone threshhold for the speech range (500, 1000, and 2000 Hz) in the better ear; the category of hearing loss was then determined in terms of this better-ear average" (Karchmer and Wolk, 1980).

A better ear average was calculated for 91 students (61%) for whom audiogram data was reported. The consistency of the number of

Table 16

Personnel Responsible for Assessment of Degree of Hearing Impairments in Each LEA (Spring 1985).

LEA	School Psychometrist	Speech Language Pathologist	Regional Service Center	School Based Audiologist	Speech & Hearing Clinic	Other
Bethany		X	X		X	
Choctaw		X	X		X	
Crooked Oak		X			X	
Crutcho						
Deer Creek						-Private Audiologist
Edmond					X	
Guthrie					X	
Harrah					X	
Jones						
Luther			X		X	
Mid/Del					X	-University of Oklahoma Health Sciences Center
Millwood		X	X		X	
Moore						
Mustang					X	
Oakdale		X			X	-Oklahoma Children's Memorial Hospital
OKC					X	-Private Clinics, M.D.
Piedmont						
Putnam					X	-Private Assessments
Western Heights					X	
Yukon					X	
TOTALS	-	4	4	-	14	5

Table 17

Number and Percentage Incidence Distribution of all OKC Metro Area Children With Hearing Impairments by Degree of Loss and Age (Spring 1985).

AGES	Mild (27-40db) n	%	Moderate (41-55db) n	%	Mod. Severe (56-70db) n	%	Severe (71-90db) n	%	Profound (91+db) n	%	TOTAL N	%
Under 3	-	-	1	100	-	-	-	-	-	-	1	1
3 - 5	2	10	4	19	1	5	7	33	7	33	21	23
6 - 9	5	26	4	21	4	21	1	5	5	26	19	21
10 - 13	3	14	2	9	3	14	4	18	10	45	22	24
14 - 17	2	10	5	25	2	10	4	20	7	35	20	22
18 +	-	-	2	25	-	-	4	50	2	25	8	9
TOTAL	12	13	18	20	10	11	20	22	31	34	91	100

Note. Aided audiogram data only.

students across age level groupings was not congruent with the distribution of students across severity levels (Table 17). Of the hearing impaired students for whom audiograms were available, 56% were classified as having severe and profound hearing loss but only 33% were in the mild and moderate range. Thus, the majority of hearing impaired students served in the metro area have significant hearing impairments.

Eighty-five percent of the hearing impaired students for whom data was available wore hearing aids (Table 18). This compares favorably with Karchmer and Kirwin (1977) who found that nearly 80% of hearing impaired students in a national sample wore hearing aids. Students with a moderate hearing loss (41-55db) reported 18% usage of hearing aids compared to 20% for severe hearing loss (71-90db) and 26% for profound hearing loss (91+db). On the contrary, for full and part time special education classes in a Louisiana survey (Karchmer and Wolk, 1980), it was found that hearing aid usage was most common for students with hearing levels between 71-90db.

Additional Handicapping Conditions

One hundred thirty hearing impaired students (81%) were reported to have one or more additional handicaps (Table 19). More than one additional handicap could be reported for a student. Eighty-two students (63%) were reported to have a speech impairment. Omitting speech impairment, the handicaps most often reported were: mental retardation (19%); learning disabilities (15%); and epilepsy (15%).

Although there is a great disparity among the percentages noted by Texas (1979), Louisiana (1980) and the Oklahoma City metro area in

Table 18

Number and Percentage Incidence Distribution of all OKC Metro Area Children with Hearing Impairments by Degree of Hearing Loss, and Hearing Aid Usage by Public School Students (Spring 1985).

Degree of Hearing Loss		Public School Use Hearing Aid n	%	TOTAL N	%
Mild	Yes	8	73	8	9
(27-40db)	No	3	17	3	3
Moderate	Yes	16	94	16	18
(41-55db)	No	1	6	1	1
Moderately Severe	Yes	11	100	11	12
(56-70db)	No	-	-	-	-
Severe	Yes	18	82	18	20
(71-90db)	No	4	18	4	4
Profound	Yes	24	80	24	26
(91db)	No	6	4	6	7
TOTAL		91	99	91	100

Summary Data	
Total aided Audiogram	91
Audiograms not Available	39
Hearing Aid info. NA	3
Records Not Available	63
Unaided Audiograms	
Moderate	4
Moderately Severe	3
Severe	3
Profound	1
TOTAL	207

Table 19

Number and Percentage Incidence Distribution of Hearing Impaired Children in OKC Metro Area Possessing at Least One Additional Handicapping Condition and Type of Program (Spring 1985).

Additional Handicapping Conditions	Home School		Residential School		Private School		Transferred to another LEA		TOTAL	
	n	%	n	%	n	%	n	%	n	%
Autism	-	-	-	-	-	-	-	-	-	-
Behavior Disorder	2	67	-	-	-	-	1	33	3	2
Blind			3	100					5	4
Cerebral Palsy	3	60	2	40	-	-	-	-	5	4
Emotional Disturbance	-	-	-	-	-	-	-	-	-	-
Epilepsy	1	14	6	86	-	-	-	-	7	5
Mild/Mod. Mental Retard.	8	89	1	11	-	-	-	-	9	7
Orthopedically H.	1	100	-	-	-	-	-	-	1	1
Sev./Profound Mental Retard.	-	-	-	-	-	-	-	-	-	-
Learning Disability	7	100	-	-	-	-	-	-	7	5
Speech Impaired	62	76	16	20	-	-	4	5	82	63
Other Health Impairment	2	100	-	-	-	-	-	-	2	2
Other	9	100	-	-	-	-	-	-	9	7
TOTAL STUDENTS	95	74	28	22	-	-	5	4	130	100
No Additional Handicaps	27		1		-		3		31	
NA 46										

the number of times that mental retardation is recorded as an additional handicap, they are all three congruent in listing mental retardation as the primary additional handicap (Speech impairment was not included as an additional handicap in the Louisiana and Texas studies).

Primary Instructional/Communication Methods/Systems Used

In reporting instructional methods and communication systems used in the education of each hearing impaired student, more than one response could be indicated (Table 20). The primary mode of instruction was identified as total communication with 57% of the responses. The percentages of response reported for other instructional methods were: auditory trainers, 28%; oral aural, 23%; and cued speech, 4%. Of the total responses checked under primary sign language system, Signed Exact English received 76% of the total with finger spelling receiving 23%.

Types of Services for Hearing Impaired

One-half of the 14 schools (Table 21) served hearing impaired students in self-contained classrooms utilizing total communication; three schools reported this as a desirable addition. Four schools reported serving hearing impaired students in resource classrooms utilizing total communication; two schools considered this as a desirable addition. Fifty-nine percent of all hearing impaired students were educated in self-contained classrooms (Table 13).

Prior reference in this report recognized the classroom usage of teacher aides (Table 14) and note takers (Table 15) for hearing impaired students. On the average, there is 1 teacher aide for every 18 hearing impaired students and 1 teacher for every 9 students.

Table 20

Number and Percentage Incidence Distribution of Hearing Impaired Students in OKC Metro Area by Type of Primary Instructional/ Communication Methods/Systems Used (Spring 1985)

Instructional/ Communication Methods/Systems	Under 3		3 - 5		6 - 9		10 - 13		14 - 17		18+		TOTAL	
	n	%	n	%	n	%	n	%	n	%	n	%	N	%
PRIMARY MODE														
Oral/Aural	1	2	5	12	4	10	9	22	17	41	5	12	41	15
Total Communication	-	-	21	21	35	34	27	26	14	14	5	5	102	37
Cued Speech	-	-	1	14	-	-	1	14	5	71	-	-	7	3
Auditory Trainer	-	-	9	32	17	61	2	7	-	-	-	-	28	10
Writing	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PRIMARY SIGN LANGUAGE SYSTEM														
Signed English/ Pigeoned Signed Eng.	-	-	-	-	-	-	-	-	-	-	1	100	1	-
Signed Exact English	-	-	16	22	24	32	18	24	11	15	5	7	74	27
Seeing Essential Eng.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Finger Spelling	-	-	3	14	1	5	5	23	8	36	5	23	22	8
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	1	-	55	20	81	29	62	23	55	20	21	8	275	100

Table 21

Types of Services Currently Available and

Desirable in Each LEA FOR Hearing Impaired (Spring 1985).

	Oral Resource		Total Communication Resource		Self-Contained Oral		Self-Contained Total		Full Time Integration With Hearing Students	
	Curr. Avail.	Desir. Add.	Curr. Avail.	Desir. Add.	Curr. Avail.	Desir. Add.	Curr. Avail.	Desir. Add.	Curr. Avail.	Desir. Add.
BETHANY										
CHOCTAW							I		I	
CROOKEDOAK										
CRUTCHO										
DEERCREEK		I		I					I	
EDMOND								I		
GUTHRIE	I		I			I		I	I	
HARRAH			I						I	
JONES										
LUTHER										
MIDDEL		I					I			
MILLWOOD				I						
MOORE										
MUSTANG										I
OAKDALE										
OKC			I				I		I	
PIEDMONT										
PUTNAM		I	I			I	I		I	
WESTHGTS								I		
YUKON							I		I	
TOTALS	1	3	4	2	0	2	5	3	7	1

Related educational services for hearing impaired students are reported in Table 22. Responses totaled for speech-language services included 69% of the total responses; 50% of these responses indicated that speech language services were scheduled twice weekly for 20-30 minutes.

Equipment Utilization

Of the responses totaled for equipment utilization (Table 23) auditory trainers topped the list with 42% usage. Across the various age groupings, total equipment utilization for school age students was consistent when the number of students was taken into consideration. However, computers were used predominantly by 14-17 year olds while the majority of tele-captioners were used by 10-13 year olds.

From a total of 55, 16 different responses were made to the open-ended question, "What would enhance a student's educational program?" Twenty percent of all responses indicated that the utilization of an auditory trainer would enhance the student's education. The following suggestions were made: interpreter in mainstreamed classes, 16%; hearing aid, 11%; computer time, 11%; tutor in mainstreamed classes, 9%; and TDD, 7%.

Table 22

Number and Percentage Incidence Distribution of Related Services Provided and Frequency of Services for Hearing Impaired (Spring 1985).

Educational Services	Daily On-Going		Once wkly 20-40m	Onee wkly 60min.	- Twice wkly 20-30m	Thrice wkly 20-30m	Other	TOTAL	
Speech-Language Pathology	3	-	18	16	56	13	8	114	69
Physical Therapy	-	-	-	-	1	-	1	2	1
Counseling	-	-	3	-	-	-	-	2	2
Medical Diag. and Evaluation	-	-	-	-	-	-	7	7	4
Parent Counseling	-	-	-	-	-	-	-	-	
Occupational Therapy	-	-	-	-	3	-	-	3	2
Auditory Training	24		-	-	1	-	3	28	17
Early Identification & Assessment	-		-	-	-	-	2	2	1
Other	2		-	-	1	3	-	6	4
TOTAL	29		21	16	62	16	21	165	100

Table 23

Number and Percentage Incidence Distribution of Hearing Impaired Students in OKC Metro Area by Type of Special Equipment Used and Age (Spring 1985).

Special Equipment	Under 3		3-5		6-9		10-13		14-17		18+		TOTAL	
	n	%	n	%	n	%	n	%	n	%	n	%	N	%
Autocuer	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Auditory Trainer	-	-	15	28	20	38	18	34	-	-	-	-	53	42
Hearing Loop	-	-	1	50	-	-	1	50	-	-	-	-	2	2
TDD/TTY	-	-	2	8	1	4	9	36	8	32	5	20	25	20
Computers	-		-	-	3	11	4	14	18	64	3	11	28	22
Tele-Captioner	-		-	-	1	8	7	58	1	8	3	25	12	9
Fonator	-		-	-	3	43	4	57	-		-		7	5
TOTAL			18	14	28	22	43	34	27	21	11	9	127	100

CHAPTER V

COST FOR SERVING HEARING IMPAIRED STUDENTS

Cost for serving hearing impaired students was reported by 13 of the 20 metro area districts. Six districts had no hearing impaired students. Eight districts were serving hearing impaired students within their LEA and five transferred their students to other districts (note horizontal dividing line on Tables 24-26).

School district personnel were requested to report average annual student body per pupil cost and actual hearing impaired per pupil cost by age level. Total program cost per district was calculated by multiplying the number of pupils times the reported per pupil cost. Each LEA computed per pupil cost for all students and hearing impaired students.

Actual Average Per Pupil Cost

Actual average per pupil cost across all age levels for serving hearing impaired students in their own LEA (Table 24) ranged from $6,935 in one district with an enrollment of approximately 2100 students to $3,817 per pupil in a district with an enrollment of over 40,000. It cost the one district 1.81 times as much to serve seven hearing impaired students in comparison to 75 students in the other district. The average cost to serve 21 students in 3 districts with enrollments beween 2500 and 15,000 was $5,121 or 1.30 times as much as the average cost, $3,938, to serve 113 students in 3 districts with enrollments

Table 24

Cost for Hearing Impaired Including: Per Pupil and Total Cost by LEAs; Cost Per LEA Computed by Using Average Cost Encumbered by LEAs Educating the Greater Number of Pupils; and Cost Push Expended Per School in Excess of Average Cost.

TOTAL COST FOR SERVING HEARING IMPAIRED

LEA[a]	Total Number of Pupils	Actual Per Pupil Cost	Total Cost	Av. Cost of two Schools	ACD[c]	Av. Cost of three Schools	ACD[c]
1. Harrah	7	$6,935	$48,545	$27,055	$21,490	$28,280	$20,265
1. Deer Creek	2	6,400	12,800	7,730	5,070	8,080	4,720
2. Choctaw	6	6,769	40,614	23,190	17,424	24,240	16,374
2. Guthrie	10	4,236	42,360	38,650	3,710	40,400	1,960
2. Yukon	5	4,915	24,575	19,325	5,250	20,200	4,375
3. OKC	75	3,817	286,275	289,875	0	303,000	0
3. Mid Del	21	4,290	92,190	81,165	11,025	84,840	7,350
3. Putnam	17	3,912	66,504	65,705	799	68,680	0
[b]							
1. Jones	1	4,250	4,250	3,865	385	4,040	210
1. Millwood	2	3,500	7,000	7,730	0	8,080	0
2. Mustang	4	6,993	27,972	15,460	12,512	16,160	11,812
2. Edmond	3	3,955	11,865	11,595	270	12,120	0
2. West.Heights	1	6,665	6,665	3,865	2,800	4,040	2,625
TOTAL			671,615	595,210	80,735	622,160	69,691

Note. Data reflects information reported by 13 of the 14 schools. Cost data was not submitted for mainstreamed hearing impaired students.

[a]Size of LEAs: 1-Less than 2500 enrollment; 2-2500 to 15,000 enrollment; 3-over 15,000 enrollment. Data also applicable to Tables 25 and 26.

[b]The horizontal line divides eight schools serving hearing impaired students from five schools transferring hearing impaired students. Data applicable to Tables 25 and 26.

[c]Average Cost Differential

Table 25

Cost for Hearing Impaired Including: Per Pupil Age Level and Total Cost by LEAs; Cost Per LEA Computed by Using Average Cost Encumbered by LEAs Educating the Greater Number of Pupils; and Cost Push Expended Per School in Excess of Average Cost.

COST FOR SECONDARY & JUNIOR HIGH HEARING IMPAIRED

LEA	Total Number of Pupils	Actual Per Pupil Cost	Total Cost	Av. Cost of Two Schools	ACI[a]	Av. Cost of Three Schools	ACI[a]
1. Harrah	3	$6,000	$18,000	$11,562	$6,438	$12,831	$5,169
1. Deer Creek	1	8,750	8,750	3,854	4,896	4,277	4,473
2. Choctaw	2	7,736	15,472	7,708	7,764	8,554	6,918
2. Guthrie							
2. Yukon							
3. OKC	28	3,707	103,796	107,912	0	119,756	0
3. Mid Del	10	5,124	51,240	38,540	12,700	42,770	8,470
3. Putnam	7	4,000	28,000	26,378	1,022	29,939	0
1. Jones	1	4,250	4,250	3,854	396	4,277	0
1. Millwood	2	3,500	7,000	7,708	0	8,554	0
2. Mustang	1	4,354	4,354	3,854	500	4,277	77
2. Edmond	1	4,250	4,250	3,854	396	4,277	0
2. Western Heights							
TOTAL			245,112		34,112		25,107

[a]Average Cost Differential

Table 26

Cost for Hearing Impaired Including: Per Pupil Age Level and Total Cost by LEAs; Cost Per LEA Computed by Using Average Cost Encumbered by LEAs Educating the Greater Number of Pupils; and Cost Push Expended Per School in Excess of Average Cost.

COST FOR SERVING ELEMENTARY HEARING IMPAIRED

LEA	Total No. of Pupils	Actual Per Pupil Cost	Total Cost	Av. Cost of Two Schools	ACD[b]	Av. Cost of Three Schools	ACD[b]
1. Harrah	2	$6,000	$12,000	$7,636	$4,364	$7,758	$4,242
1. Deer Creek	1	4,050	4,050	3,818	232	3,879	191
2. Choctaw	4	6,286	25,144	15,272	9,872	15,516	9,628
2. Guthrie[a]	10	4,236	42,360	38,180	4,180	38,790	3,570
2. Yukon	5	4,915	24,575	19,090	5,485	19,395	5,180
3. OKC[a]	47	3,913	183,911	179,446	4,465	182,313	1,598
3. Mid Del	11	3,723	40,953	41,998	0	42,669	0
3. Putnam	7	4,000	28,000	26,726	1,274	27,153	847
1. Jones							
1. Millwood							
2. Mustang	3	7,873	23,619	11,454	12,165	11,637	11,982
2. Edmond	2	3,807	7,614	7,636	0	7,758	144
2. Western Heights							
Total			392,226		42,037		37,380

[a]Elementary includes Pre-school

[b]Average Cost Differential

over 15,000. This upward push in education costs is referred to as cost push.

Average Cost Differential

The amount of upward push of education costs (Tables 24,25 and 26) was computed by using the average cost encumbered of the three LEAs serving the greater number of pupils (Oklahoma City, Mid Del, and Putnam) and subtracting it from the actual per pupil cost for each district. The resulting average cost differential (ACD) for all hearing impaired students in the 8 districts serving their own students was in excess of $55,000 while ACD for 5 districts transferring hearing impaired students was in excess of $14,000. The approximate total ACD at the various levels for the 3 districts was as follows: secondary and junior high, $25,100; elementary, $37,400; and preschool, $14,700.

Average cost differential increased significantly when the average cost was computed by using only two districts' (Oklahoma City and Putnam) per pupil cost (Tables 24,25 and 26). The approximate ACD was: total, $80,700; secondary and junior high, $34,100; and elementary, $42,000.

Ratio Cost Comparison

With the continued upward spiral of costs from year to year due to inflation, any data on total cost is applicable only to the year when the cost was computed. Therefore, cost estimates will be low unless they are adjusted upward commensurate with the rate of inflation. One method used by Kakalik, et. al. (1981), is to assume that the rate of

cost of inflation is the same for special education cost as it is for regular education. Ratio cost was computed by dividing the average annual special education cost by the average annual per pupil cost. The costly and time consuming method of computing special education cost every year could be changed and computed every five years. Extra effort could be exerted every five years by administrative personnel in order to compute special education per pupil cost. If the same formula was used in computing such cost, more accurate cost comparisons between schools could be made. School administrative personnel could quickly ascertain student special education transfer cost by multiplying their annual student body per pupil cost by their ratio.

Tables 27 and 28 present cost weighting factors that can be used to compare cost estimates of special education to regular education based on local ratio cost for hearing impaired students by age levels and total population, as well as comparative nationwide data (Kakalik, et. al. 1981) for various types and sizes of programs.

Careful analysis of Table 27 reveals that although Putnam schools had the lowest ratio cost of special education to regular education (1.27), their average annual per hearing impaired student cost was higher than Oklahoma City. Putnam's low ratio cost resulted from a low average annual per hearing impaired student cost and a high average annual student body per pupil cost. In like manner, Choctaw's high ratio cost resulted from high average annual per hearing impaired student cost and a low average annual student body per pupil cost. This information serves as a reminder that if such cost reflects one time expenses or equipment used over a period of years, that these expenses be prorated over a

Table 27

Cost Compairson of Hearing Impaired Pupils to Regular Education Pupils and to National Ratio Costs by Type of Placement and Size of LEA

LEA	Total No. of Hearing Impaired	Av. Annual Per Pupil Cost	Av.Annual Cost/Hearing Impaired	Ratio Costs	Added Cost For H. Imp. Above Annual Per Pupil Cost	Nationwide Cost of Sp.Ed. + Related Serv. (Ratio 2.17)	National Av. Special Class + Reg. Class (Ratio 3.58)	National Av. LEA Size (Ratio: 1=3.87; 2=2.65; 3=3.38)
1. Harrah	7	$2,444	$6,935	2.84	$31,437	$5,303	$8,750	$9,458
1. Deer Creek	2	2,100	6,400	3.05	8,600	4,557	7,518	8,127
2. Choctaw	6	1,983	6,769	3.41	28,716	4,303	7,099	5,254
2. Guthrie	10	2,271	4,236	1.87	19,650	4,929	8,132	6,019
2. Yukon	5	2,500	4,915	1.97	12,075	5,425	8,950	6,625
3. OKC	75	2,215	3,817	1.72	120,150	4,807	7,930	7,487
3. Mid Del	21	2,193	4,390	2.00	46,137	4,758	7,850	7,412
3. Putnam	17	3,071	3,912	1.27	14,297	6,664	10,994	10,380
1. Jones	1	2,113	4,250	2.01	2,137	4,585	7,564	8,177
1. Millwood	2	2,025	3,500	1.73	2,950	4,394	7,250	7,837
2. Mustang	4	2,614	6,993	2.68	17,516	5,672	9,357	6,926
2. Edmond	3	2,700	3,955	1.46	3,765	4,591	7,575	5,607
2. West.Heights	1	2,700	6,665	2.47	3,965	5,859	9,666	7,155

Table 28

Cost Comparison of Hearing Impaired Pupils to Regular Education Pupils and to National Ratio Costs by Age Level

	SECONDARY					ELEMENTARY			
LEA	Number of Pupils	Av. Annual Per Pupil Cost	Av. Annual Cost/Hearing Impaired	Ratio Cost	National Av. Ratio Cost Hearing Imp. (3.15)	Number of Pupils	Av. Annual Cost/Hearing Impaired	Ratio Cost	National Av. Ratio Cost Hearing Imp. (2.95)
1. Harrah	3	$2,444	$6,000	2.45	$7,699	2	$6,000	2.45	$7,210
1. Deer Creek	1	2,100	8,750	4.17	6,615	1	4,050	1.93	6,195
2. Choctaw	2	1,983	7,736	3.90	6,246	4	6,286	3.17	5,850
2. Guthrie		2,271			7,155	10	4,236	1.87	6,701
2. Yukon		2,500			7,875	5	4,915	1.97	7,375
3. OKC	28	2,215	3,707	1.67	6,977	47	3,913	1.77	6,534
3. Mid Del	10	2,193	5,124	2.34	6,907	11	3,723	1.70	6,469
3. Putnam	7	3,071	4,000	1.30	9,674	7	4,000	1.30	9,059
1. Jones	1	2,113	4,250	2.01	6,655				
1. Millwood	2	2,025	3,500	1.73	6,379				
2. Mustang	1	2,614	4,354	1.67	8,233	3	7,873	3.01	7,710
2. Edmond	1	2,116	4,250	2.01	6,665	2	3,807	1.80	6,242
2. Western Heights		2,700			8,500				7,966

five year period.

All local cost comparisons with national costs (Table 27 and 28) use a national cost ratio for hard of hearing when comparing cost at specific age levels. Cost for educating deaf students is higher. It is noteworthy that the cost for serving the hearing impaired students in Oklahoma city metro area is 6/10 the national average. The average cost in the metro area is about $4500 compared to $7500, based on LEA size. All schools' (large and small) ratio cost averaged 2.15 for educating the hearing impaired students.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY

Student Characteristics

The portrait of secondary hearing impaired students of the Oklahoma City metro area for the academic year 1985-86 is a mini-profile of the portrait of the aggregate hearing impaired school population involved in this study. The majority of these secondary students are white (approximately 75%) with slightly more males than females. The greater number of these students receive speech-language services. The majority of students for whom data was available have severe and profound hearing losses.

Instructional Services and Equipment Usage

Individualized education program placements for these secondary students were evenly distributed between self-contained, resource, and special school. Dominant support services included use of a tutor or special aide and a notetaker. About 1/5 of all support services included an interpreter. Approximately 1/4 are receiving no instructional support services. Approximately 70% of the secondary hearing impaired students

were receiving instruction at the intermediate and junior high levels. The districts reported using a total communication and oral/aural approach about equally. The predominant manual communication system used was Signed Exact English.

For each secondary student reported not wearing a hearing aid, three were reported to use hearing aids. Predominant use of equipment for these students involved TDD/TTYs and computers.

Educational Cost

Average per student cost was pushed upward for districts with smaller enrollments. This upward push in costs in the smaller LEAs is reflected not only by Oklahoma City metro area school districts but by districts with small enrollments throughout the nation (Kakalik, et. al., 1981).

Cost differentials, for hearing impaired students, between smaller and larger districts was demonstrated when: the actual per pupil cost moved from a high of $6,935 to a low of $3,817; the average cost moved from $7,500 to $4,500; a smaller district's cost was 1.81 times the cost encumbered by a larger district; and the middle-size district's cost was 1.30 times the cost encumbered by larger districts.

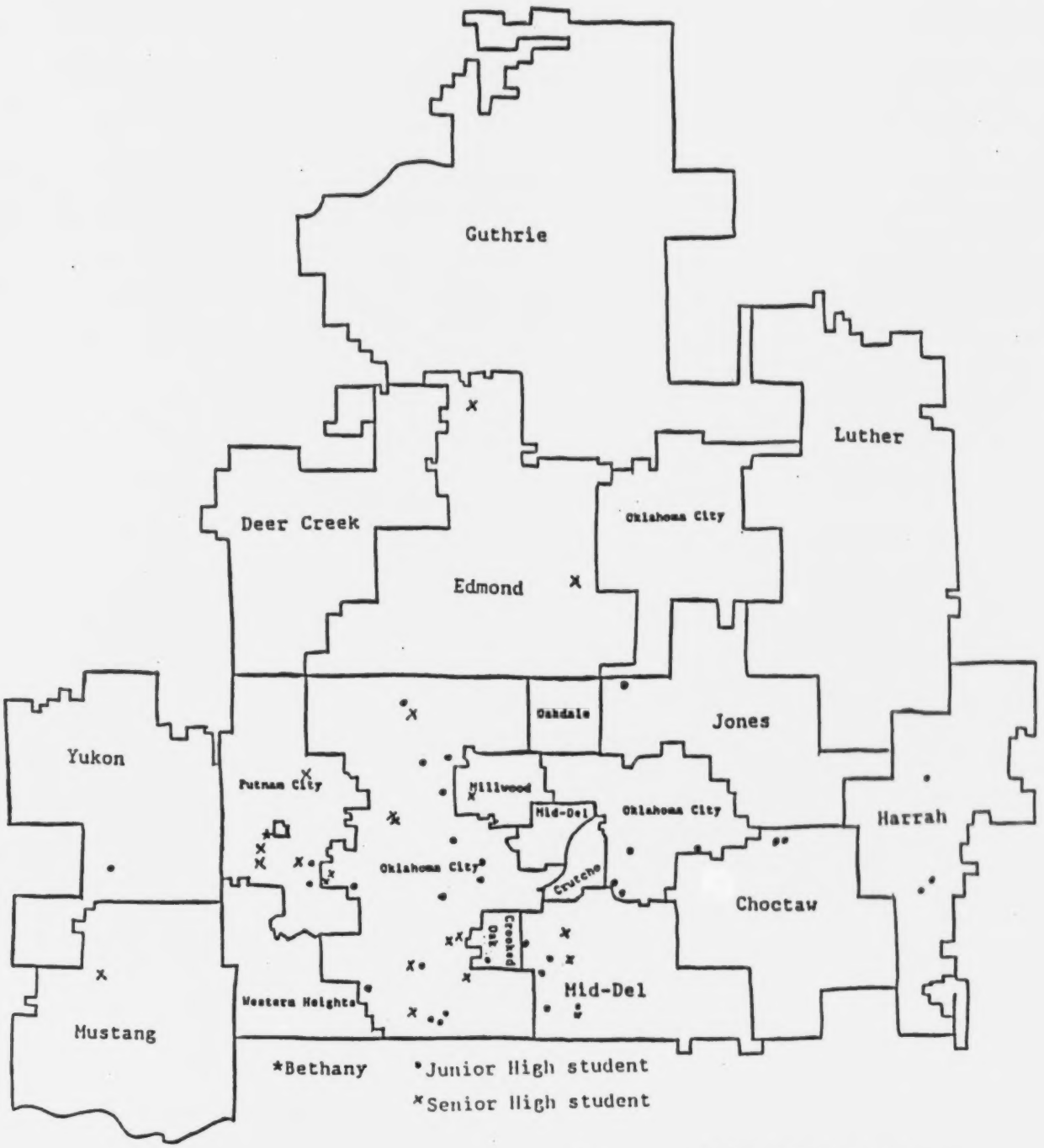
Residential Location of Secondary Students

A map drawn to scale (Figure 1) projects the residential location of metro area students for 1985-86 based on spring, 1985, school data. Junior High grade levels include grades 7 and 8.

A close examination of the map reveals: a majority of junior high age students in and around the Mid Del school district; a fairly even

Figure 1

Map to Scale Identifying Residential Location of Junior High and Senior High Students for 1985-1986 Based on School Data (Spring 1985).



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distribution of junior and senior high students in the Oklahoma City school district; and the Putnam City school district has a majority of senior high students.

Program Model Placements

Of the total number of secondary hearing impaired students in the metro area, approximately 1/3 were being served in resource models, 1/3 in self-contained models, and 1/3 in residential setting. According to current data for metro hearing impaired students, a higher percentage of secondary students recorded IEP placement in a residential school than that reported for the total hearing impaired metro area population.

Enrollment Trends of the Past

For the past three consecutive years, there was a 3% increase per year (based on child count data, Table A) in enrollment of hearing impaired students in the metro area. This data does not reveal the specific levels recording the increase.

Conclusions

A critical need to be addressed by administrators in the Oklahoma City metro area is the need to provide a quality educational program for secondary hearing impaired students. The formulation of conclusions relative to an appropriate program for secondary hearing impaired students necessitates a study of the needs/characteristics of the projected population and a search of the literature to identify recommended components. Components of an appropriate program based on a literature search include some of the following:

Evaluation of Programs for the Hearing Impaired, Lederer, 1981.

1. Well defined statement of objectives and goals.
2. Development of a system of monitoring student progress.
3. Program supplied with sufficient numbers of personal FM systems and teacher microphones.
4. Child study teams educated to importance of binaural amplification.
5. Provision of a school based educational audiologist will produce significant long-range and short term benefits for the hearing impaired.

Oversight on Programs for the Deaf and Hearing Impaired, 1980.

1. Need for development of program models which can develop and demonstrate an integration of services within the context of a program of education and training, across all student age levels, which is directed toward accomplishment of independent living skills, economic self-sufficiency and achievement of educational goals. Models should be replicable in any metropolitan area.
2. Use of audio loop systems.
3. Personnel retraining.
4. Vocational evaluations and training.
5. Use of paraprofessionals to provide supportive services.
6. Use of autocuer and hearing aids that compensate for non-linear distortion.
7. The oral interpreter is a necessary support specialist for the hearing impaired.

National Needs Assessment of Educational Media and Materials for the Handicapped, Vale, 1978.

1. Teachers of the deaf and hearing impaired are especially high users of an makers of teacher made materials.
2. Highest priority curriculum areas designated by 1,932 teachers for 52,937 hearing impaired and deaf students in 33 states included:
   (1) Reading comprehension was the highest priority in all three categories: above average, average and below average;
   (2) Reading vocabulary was next in the average and above average categories with production of phrases/sentences for the below average students.
   (3) Next in priority line was reasoning/decision making skills for the average and above average with reading vocabulary development for the below average.
3. Highest priority curriculum areas for 12 years of age and older include:
   (1) Reading comprehension
   (2) Reading vocabulary development

(3) Job preparation/skills development

Model plan for service to deaf and hearing impaired, New York, 1983.

1. Interagency cooperation and cooperative agreements.
2. Independent living services.
3. Accessibility-Provisions to overcome communication barriers: qualified interpreters; telecommunication devices, etc.

Implementing Massachusett's Special Education Laws: A Statewide Assessment, 1982

1. Collaboratives have advantage of specialized personnel trained to deal with specific handicaps.
2. Collaboratives can usually provide services less expensive than can a small school system.
3. Collaboratives have the continuity necessary to develop expertise in working with a given population.

School and Community Integration of Severely Handicapped Students in De Kalb Co., Illinois

1. Four curriculum domains in which students are trained in non-school environments: domestic; vocational; recreational/leisure; and community at large.

Emotionally Disturbed Hearing Impaired Students in California, Towner, 1983.

(Approximately 21-24% of all hearing impaired students are emotionally disturbed; Towner, 1983)

1. Specialized training for personnel in the areas of vocational skills, curriculum content, instructional techniques and mental health/needs services.

An instructional program for metro area secondary hearing impaired students should be based on student characteristics and needs, as well as including components of a model and/or appropriate program. Such a program should include: appropriately trained and certified teachers with a high degree of expertise in enhancing reading comprehension, vocabulary, and communication; speech-language pathologists; an educational audiologist; counselors; school psychologists; instructional personnel competent in total communication, oral/aural, and use of Signed Exact English; vocational evaluations and training;

use of support personnel as tutors, notetakers and interpreters; amplification systems; and the utilization by more students of instructional support equipment such as telecommunication devices, computers, telecaptioners, autocurers, and auditory trainers.

In order to meet the needs of the projected metro area hearing impaired student population who are mainly characterized as having severe and profound hearing losses and who are currently receiving instruction at a level below their grade placement, and inter-agency cooperative is recommended. Advantages, barriers and recommendations for forming cooperatives are found in the Appendices.

Recommendations

In view of the need for a greter percentage of secondary hearing impaired students to receive additional instructional support, an inter-agency cooperative is recommended. Through a cooperative endeavor, cost encumbered, especially by the smaller districts, should be reduced at the same time that services are expanded.

Cooperative Alternatives

Projected costs for educating junior and senior high students (9-12) in the Oklahoma City metro area for 1985-86 are presented in Table 29. This projected cost is based on: the number of students currently being served in the designated school districts and who will be enrolled in grades 9-12 for the 1985-86 school year; and on the actual reported cost for educating hearing impaired students in the designated districts. This data indicates that there will be approxi-

Table 29

Projected 1985-86 Cost for Educating Senior High and Junior High Hearing Impaired in the Oklahoma City Metro Area.

LEA	Projected No. of Pupils	Actual Per H.I.Pupil Cost	Projected 1985-86 Cost	Projected 1985-86 Added Costs	Projected 1985-86 ACD (Av. 2 Schools)
1. Harrah	3	$6,000	$18,000	$10,668	$6,438
1. Deer Creek	-	-----	------	------	-----
2. Choctaw	2	7,736	15,472	11,506	7,764
2. Guthrie	-	-----	------	------	-----
2. Yukon	1	4,915	4,915	2,415	1,061
3. Oklahoma City	24	3,707	188,968	35,808	-0-
3. Mid/Del	8	5,124	40,992	23,448	10,160
3. Putnam	6	4,000	24,000	5,574	876
1. Jones	1	4,250	4,250	2,137	396
1. Millwood	2	3,500	7,500	2,950	-0-
2. Mustang	1	4,354	4,354	1,740	500
2. Edmond	2	4,250	8,500	3,100	792
2. Western Heights	-	-----	-----	------	-----
TOTAL	50		227,529	104,693	27,737

mately $230,000 spent on educating 51 hearing impaired students. Average cost differential is approximately $28,000.

Alternative A. Schools entering into a cooperative arrangement would agree to send and receive transfer students with the transfer fee computed by using their 1984-85 ratio costs. Putnam, Mid Del, and Oklahoma City (Guthrie had no secondary hearing impaired students) would receive transferees. The cost differential would be used to employ a half-time coordinator to coordinate all low incidence transferees. Based on current cost data, the cost differential would be about $28,000.

Projected advantages include:

1. A coordinator would assist administrators and special education personnel in identifying receiving LEAs for low incidence transfer students.
2. A coordinator would cooperatively work with LEA administrative/transportation personnel in identifying and coordinating transport services for low incidence handicapped students.
3. Develop interagency guidelines for cooperative agreements between metro area LEAs.
4. Develop contractural agreements and secure signed commitments from LEA administrative personnel.
5. Work cooperatively with metro area LEA personnel in establishing components of a metro area interagency service delivery system model.

Possible disadvantages include:

1. Initial impact on educational services for hearing impaired would be minimal.
2. Establishment of an office in a central location may be a problem.
3. Uprooting of more students by not serving them in their own LEA and possible increase in due process hearing requests as a result.

Alternative B. Due to the residential location of students, projected cost was computed with Putnam and Mid Del serving as junior high centers, and Oklahoma City serving as a senior high center. Analysis of the

Table 30

Projected 1985-86 Costs for Educating Junior and Senior High Hearing Impaired Oklahoma City Metro Area Students in Three Locations Based on Current LEA Cost.

Putnam Junior High			Oklahoma City Senior High			Mid/Del Junior High		
LEA	No. of Students	Cost	LEA	No. of Students	Cost	LEA	No. of Students	Cost
Putnam	2	$8,000	Oklahoma City	10	$37,070	Mid Del	6	$30,744
Oklahoma City	9	33,363	Edmond	2	8,500	Harrah	3	18,000
			Mid Del	2	10,248	Choctaw	2	15,472
Yukon	1	4,915	Millwood	2	7,000	Jones	1	4,250
Total	12	$46,278	Mustang	1	4,354	Oklahoma City	5	18,535
			Putnam	4	16,000			
			Total	21	$83,172	Total	17	$87,001

data reveals that at Putnam's current costs, they would be operating at a deficit (utilizing current ratio cost), although it is recognized that as the number of students goes up, the cost will be reduced.

Projected advantages include:

1. Concentration on specific grade levels could enhance the quality of services with: availability of needed professionals with specific expertise working with hearing impaired students; personnel more responsive to problems/needs of students of a specific age group; and additional instructional support such as interpreters, tutors, and specialized equipment.
2. Reduction in time/cost of transportation for majority of students when classrooms are located in close proximity to residential location of students.
3. Probable reduction in program costs (teachers, aides, interpreters, supplies, equipment) when more students are at one site and particularly when grade specific.
4. Equipment on loan from sending schools could enhance educational opportunities.

Possible disadvantages include:

1. Due to high annual per pupil cost at Putnam and high hearing impaired per pupil costs at Mid Del, monies would not be available for program improvement.
2. Question the feasibility of establishing programs based on student residential location due to mobility of population and upward progression of students in school.
3. Uprooting of more students by not serving them in their own LEA and possible increase in due process hearing requests as a result.

Alternative C. Projected cost for educating the secondary students at one location, Oklahoma City, is easily computed. The cost for educating 50 students at $3,707 is $185,350. Total projected cost for educating these students reported in Table 29 is $227,529 or an average cost differential of $42,000.

Projected advantages include:

1. Essential components for a model program could be incorporated into the existing Oklahoma City program for the secondary hearing impaired.
   (1). A critical need exists for an educational audiologist whose services result in significant benefits to hearing impaired students. Initial and ongoing assessments are crucial to edu-

cational progress. With Alternative C, monies would be availabile for an audiologist.
(2). Equipment on loan from sending schools would enhance educational opportunities.

2. Concentration of students could enhance the quality of services with personnel, aided by additional resurces, more responsive to problems/needs of students and matching needs of students with appropriate resources.
(1). Student mainstreamed in specified classes with interpreters assistance.
(2). Utilization of computers, telecaptioners, TTDs/TTYs, auditory trainers, etc., based on student needs and abilities rather than just what equipment/resources are available.
3. Probable reduction in program costs--personnel, equipment, etc.
4. Increases in transportation costs could be off-set in part by inter-agency cooperation.

Possible disadvantages include:
1. Longer time in transportation to and from school for some students.
2. Uprooting of more students by not serving them in their own LEA and possible increase in due process hearing requests as a result.

Discussion of Costs and Alternatives

Initially, improvement in educational services for the secondary hearing impaired would probably only be minimal under Alternative A. Alternative B does not provide sufficient monies for program improvement. Alternative C is a good choice because of the central location of the district and the designated advantages reported.

Cost projections are based solely on current costs reported by school districts. Capital outlay cost (i.e., school plant) should not initially be considered in a cooperative. Actual per pupil cost should include the cost for classrooms and capital outlay spread over a time span. A proposed tuition formula (Newby, 1983) for consistent computation of program cost by LEAs is included in Appendix G. A system, Program Management Information System (PMIS), developed by Newby (1983) is suggested for LEA use in determining actual per pupil cost. By using the PMIS, ratio costs can be determined.

Specific Recommendations

1. The formulation of a "Metro Area Cooperative Education Program" is recommended. Existing facilities (school plants) could be utilized. Administrative personnel would be from the participating schools. Special services could operate under the same concept as area vocational schools. Under such a cooperative arrangement, no transfers would be involved.

2. Tuition fees would provide the monies for operating a cooperative It is recommended that metro area LEA administrative personnel utilize the same formula (e.g., PMIS) in computing their annual student body per pupil cost and hearing impaired per pupil cost. The ratio cost concept could be utilized in either of the following ways: (1) Designation of a specific ratio tuition fee. Currently, the ratio for educating hearing impaired students in the metro area in relationship to the metro area average annual student body per pupil cost is 2.15. For each hearing impaired student, the average annual student body per pupil cost encumbered by an LEA would be multiplied times 2.15 (or other designated ratio) in computing the tuition fee. (2) A ratio tuition fee computed by using each LEA's actual ratio cost for educating hearing impaired students. The problem encountered with this alternative is that some districts are transferring their hearing impaired students, and a ratio could not be computed for them.

3. Area administrators and special education personnel utilize the 1985-86 school year in planning and designing a metropolitan model cooperative to be initiated in 1986-87. Some alternative ways to accomplish this include: (1) An executive commitee representative of administration and special education personnel from the various LEAs could assign various components of a model plan to committees. Through volun-

tary efforts an inter-agency cooperative could be designed and initiated. (2) An individual could be contracted to work with an executive committee in designing an inter-agency model cooperative. A search for available monies would need to be conducted in order to contract the services of a Program Designer/Planner. (3) The first year the cooperative is in operation, a part-time Coordinator/Planner could be utilized (Alternative A). This would necessitate only minimal pre-planning.

4. A centrally located site for all secondary students is recommended. An examination of the map (Figure 1) reveals that the Oklahoma City school district is centrally located. A cost effective program with increased instructional support could be established by serving the aggregate secondary hearing impaired population at one site (note advantages of Alternative C).

5. A similar study giving increased focus to the other low incidence handicapping areas is also recommended.

Concluding Statements

The research data in this report highlights the needs of metro area hearing impaired students for increased academic achievement via greater utilization of instructional equipment and support services such as interpreters, tutors, etc. It is apparent that adequate administrative and financial resources are available for implementing any of the alternatives chosen by administrators. Most importantly, an awareness of the problem and a desire to more appropriately serve the students is evident among metro area school personnel. All the ingredients essential for developing a curriculum that would best meet the needs of the clientele are available and should be utilized in the development of a model metropolitan cooperative.

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A P P E N D I X A

Individual Student Questionnaire

Needs Assessment
Of
Low Incidence Handicapped Children
In The Oklahoma City Metro Area

COMPLETE this form on ALL identified children who are severely/profoundly handicapped (Low Incidence) for whom you are responsible for serving under P.L. 94-142 (including all district residents such as those attending a school for the blind). For purposes of this project, low incidence includes the following handicapping conditions: Hearing Impaired, Visually Impaired, Deaf/Blind, Severely Emotionally Disturbed and Multiply Handicapped.

CONFIDENTIAL: All information which would permit identification of any individual or institution will be held strictly confidential and will be used only by Oklahoma City Metro Area Needs Assessment Project staff for authorized purposes. No personally identifiable student data will be disclosed.

MARK AND WRITE IN DESIGNATED AREAS ONLY

A. [IDENTIFYING DATA]

1. Student Number:

Dist. No. | 1st 3 Letters in Last Name | 1st Letter of first Name

2. Home Address _____
(Street)

_____ Okla _____
(City) (Zip)

3. Date of Birth

MONTH	DAY	YEAR
Jan	0 0	0 0
Feb	1 1	1 1
Mar	2 2	2 2
Apr	3 3	3 3
May	4 4	4 4
Jun	5 5	5 5
Jul	6 6	6 6
Aug	7 7	7 7
Sep	8 8	8 8
Oct	9 9	9 9
Nov		
Dec		

4. Grade

Pre-S
Kdg.
1
2
3
4
5
6
7
8
9
10
11

5. Sex

Male____
Female___

6. Ethnic Origin

White____
Black____
Hisp.____
Am. Ind.___
Orient.___
Multi-E___
Other____
Unknown___

B. [SCHOOL THIS STUDENT IS CURRENTLY ATTENDING]

1. Is student enrolled in your school district?
YES_____ No_____

_____Transferred to other public school

_____Transferred to Residential School.

_____Transferred to Private School.

If transferred, record name and location of school_____

_____

2. Annual cost of tuition/transfer fee:
$_____Multiply Handicapped
$_____Hearing Impaired
$_____Visually Handicapped
$_____Deaf/Blind
$_____Severely Emotionally Disturbed
$_____Other_____

3. If student is transported, record:

_____Number of miles transported.

_____Time in transport.

Round trip cost of transportation:

$_____ (month) $_____ (annual)

_____
(home school) (town)

BEST COPY AVAILABLE

C. [EDUCATIONAL & RELATED SERVICES]

1. What is student's current IEP placement decision? (Mark only one)

_____Resource
_____Itinerant
_____Regular Only
_____Hospital Base
_____Home Base Program
_____Self Contained
_____Special School
_____No IEP on File

2. Does the student receive Special Education classroom instruction?

_____Yes. _____No (go to 3).

If yes, this student receives this instruction in a setting designed for or with: (Mark all that apply)

_____Hearing Impaired
_____Visually Handicapped
_____Deaf/Blind
_____Multi-Handicapped
_____Severly Emotionally Disturbed
_____Other _____

3. According to the IEP, indicate the related services provided on a scheduled/ regular basis to this student (Mark all that apply). Designate scheduled frequency, i.e., daily/30 min.; 2 (twice) weekly/25 min., etc.

	Frequency
____Speech Therapy	_____
____Physical Therapy	_____
____Counseling	_____
____Medical Diagnosis & Evaluation	_____
____Parent Counseling	_____
____Occupational Therapy	_____
____Auditory Training	_____
____Early Identification & Assessment	_____
____Other_____	_____

4. Does this student receive regular classroom instruction with non-handicapped students, either full or part time?

_____Yes. _____No (go to 5).

If yes, indicate the services this student receives in support of this regular instruction.

____Interpreter
____Note Taker
____Braille
____Reader
____Unknown or not reported
____Recorded Material
____Large Print
____Tutor or Special Aide
____Other (Specify)
_____
_____

5. Designate the instructional level of this student

_____Pre-School
_____Primary
_____Intermediate
_____Junior High
_____Mid High
_____Senior High

This level was designated because of: (check all that apply)

_____Achievement Data -Informal
_____Observation
_____Other_____
_____

_____Achievement Data -Formal Specify Instrument
_____

6. Designate the PRIMARY Handicapping condition of this student. (Mark one)

_____Hearing Impaired
_____Visually Impaired
_____Severely Emotionally Disturbed
_____Multi-Handicapped

7. Does this student have additional educationally significant handicapping conditions, other than hearing, visual and emotional disturbances?

_____No (go to D; if no hearing impairment, STOP HERE)

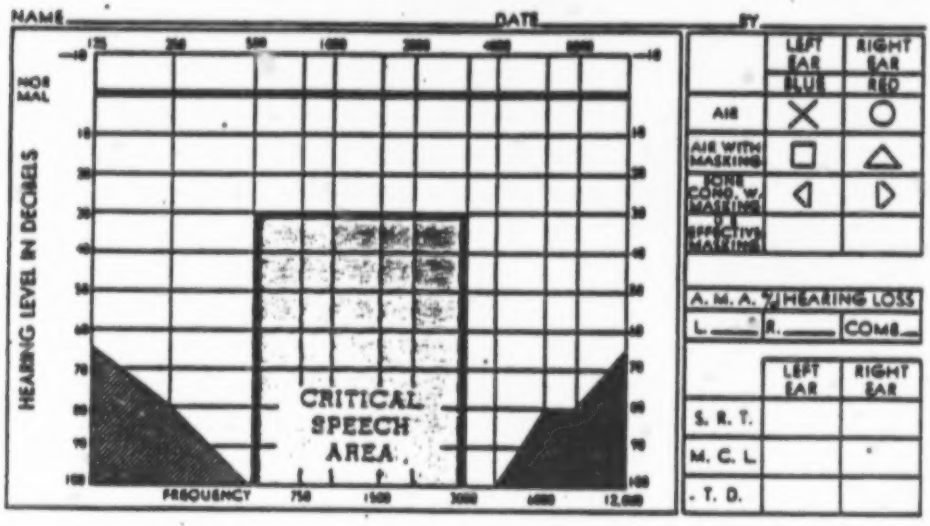
_____Yes (Mark all that apply)

____Autism
____Behavioral Disorder
____Blind
____Cerebral Palsy
____Epilepsy
____Hearing Impairment
____Mild/Moderate Mental Retardation
____Orthopedically Handicapped
____Severe/ Profound Mental Retardation
____Specific Learning Disability
____Speech Impaired
____Visually Impaired
____Other Health Impairment
____Other_____

D. [EDUCATIONAL AND RELATED SERVICES FOR HEARING IMPAIRED ONLY]

1. Indicate the degree of hearing loss (aided) for Hearing Impaired students.

AUDIOGRAM



2. Does the student use hearing aids?

_____Yes _____No

3. Indicate the type of Primary Instructional/Communication methods/systems used:

MODE

_____Oral/Aural
_____Total Communication
_____Cued Speech
_____Auditory Trainer
_____Writing
Sign Language Systems
_____Signed Eng./Pigeoned Signed English
_____Signed Exact English
_____Seeing Essential English
_____Finger Spelling
_____Other_____

4. Designate the type of special equipment used in instructing this student.

_____Autocuer
_____Auditory Trainers
_____Hearing Loop
_____TTD
_____TTY
_____Other_____
(specify)

5. In providing an appropriate program, what type of equipment/instructional support would enhance this student's educational program?

_____

_____

_____

_____

_____

RETURN FORM TO:

Dr. Maybelle Hollingshead
LINAS Project Coordinator
1325 Linwood
Weatherford, Okla.,73096

PLEASE RETURN FORM BY APRIL 15, 1985

A P P E N D I X B

Summary Response Form Questionnaire

Needs Assessment
Of
Low Incidence Handicapped Children
In The Oklahoma City Metro Area

Summary Response Form

1.0 LEA Identifying Data

Name of LEA and Address

_____

_____

_____

Individual Completing Form

_____
(Name)

_____
(Title)

_____
(School)

_____
(City) (Zip)

_____
(Phone)

1.1 Record the number of Low Incidence Handicapped students enrolled in your LEA and your current FTE level.

No. of students		Teacher FTE level
_____	Hearing Impaired Only	_____
_____	Visually Handicapped Only	_____
_____	Deaf/Blind Only	_____
_____	Severely Emotionally Disturbed	_____
_____	Multiply Handicapped	_____

1.2 Record the FTE level of aides employed by your LEA who are serving the Hearing Impaired

_____

1.3 Designate the annual actual per pupil cost for educating hearing impaired students in your district. Record data by grade levels and the number of students at each level.

(i.e., Preschool, Grades K-5, K-6, 6-8, etc.)

	Grade Level	FTE Level	No of Students	Cost Per Student
EX.	9-12	1½	12	$ 6,000.00
	_____	_____	_____	$ _____
	_____	_____	_____	$ _____
	_____	_____	_____	$ _____
	_____	_____	_____	$ _____
	_____	_____	_____	$ _____
	_____	_____	_____	$ _____

1.4 Types of Services: In the first column, check the services CURRENTLY available to your school for hearing impaired students.

In the second column, check the services that would be DESIRABLE to add to improve the quality of services to hearing impaired students.

Currently Available	Desirable Addition	
_____	_____	Part-time oral classroom for hearing impaired; part time resource teacher.
_____	_____	Part time total communication classroom; part time resource teacher.

1.4 Types of Service (continued)

Currently Available	Desirable Addition	
_____	_____	Self-contained oral classroom
_____	_____	Self-contained total communication classroom.
_____	_____	Mainstreamed with hearing students

1.5 Assessments of degree of hearing impairments are currently made by:

_____ School Psychometrist

_____ Speech Pathologist

_____ RESC

_____ School based Audiologist

_____ Speech & Hearing Clinic

_____ Others_____

COMPUTATION OF ACTUAL PER PUPIL COST

In all probability, in figuring your annual per pupil cost, you have computed the appropriate proportion of all costs, such as:

Administrative Expenditures: Salaries and Benefits - Superintendent, Assistant Superintendent, Coordinator of Special Services, Principal, Assistant Principal, Secretaries; Materials, Equipment and Supplies, Utilities, Indirect Costs.

Classroom Expenditures: Salaries and Benefits - (full and part time) - Aides; Materials, Equipment and Supplies.

Related Services: Salaries and Benefits - (full and part time) - Psychometrist, Speech Therapist, Occupational Therapist, School Nurse, Counselor, Physical Therapist, School Psychologist; Materials, Equipment, Supplies and Transportation.

Support Services: Salaries and Benefits - (full and part time) - Custodians, Cafeteria personnel, Security, Grounds caretaker; Materials, Equipment and Supplies.

RETURN FORM TO:

Dr. Maybelle Hollingshead
Project Coordinator
Low Incidence Needs Assessment
1325 Linwood
Weatherford, Oklahoma 73906
Phone: (405) 772-6479 (H)

PLEASE RETURN FORM BY APRIL 15, 1985

A P P E N D I X C

State of Oklahoma Child Count Data

for

Hearing Impaired, Severely Emotionally Disturbed,

Multi-Handicapped and Visually Handicapped Students

1981-82 - 1984-85

Table A

Number of Children Ages 0-21 Years by School District and Academic Year

State of Oklahoma Child Count Data

Hearing Impaired

District	1981-82	1982-83	1983-84	1984-85
Bethany	-	-	-	-
Choctaw	13	11	14	8
Crooked Oak	-	1	-	-
Crutcho	-	-	-	-
Deer Creek	1	1	1	3
Edmond	3	3	3	6
Guthrie	6	5	4	8
Harrah	4	3	3	-
Jones	1	-	1	-
Luther	-	-	-	-
Mid Del	3	11	9	10
Millwood	-	1	-	-
Moore	23	26	28	32
Mustang	4	3	2	4
Oakdale	-	-	-	-
Oklahoma City (OKC)	20	26	34	41
Piedmont	-	1	-	-
Putnam City	8	3	4	10
Western Heights	1	-	3	1
Yukon	2	3	5	6

Table B

Number of Children Ages 0-21 Years by School District and Academic Year

State of Oklahoma Child Count Data

Severely Emotionally Disturbed

District	1981-82	1982-83	1983-84	1984-85
Bethany	-	-	-	3
Choctaw	17	17	16	17
Crooked Oak	-	-	-	1
Crutcho	-	-	-	-
Deer Creek	1	1	-	-
Edmond	11	16	18	19
Guthrie	-	-	5	7
Harrah	1	-	-	-
Jones	1	-	-	1
Luther	1	-	1	-
Mid/Del	18	48	70	54
Millwood	-	-	1	-
Moore	45	41	64	55
Mustang	-	-	-	-
Oakdale	-	-	-	-
OKC	103	133	153	128
Piedmont	9	9	9	7
Putnam City	53	56	53	64
Western Heights	2	7	6	11
Yukon	19	19	9	7

Table C

Number of Children Ages 0-21 Years by School District and Academic Year

State of Oklahoma Child Count Data

Multi-Handicapped

District	1981-82	1982-83	1983-84	1984-85
Bethany	2	4	74	14
Choctaw	11	7	16	16
Crooked Oak	2	-	-	-
Crutcho	-	-	2	2
Deer Creek	-	4	1	1
Edmond	8	10	10	23
Guthrie	-	1	1	3
Harrah	7	8	8	4
Jones	1	-	-	3
Luther	-	-	-	-
Mid/Del	57	51	33	58
Millwood	-	-	1	-
Moore	11	12	7	8
Mustang	4	6	5	10
Oakdale	-	1	-	-
OKC	112	69	45	101
Piedmont	1	-	-	-
Putnam	39	96	62	46
Western Heights	4	6	6	11
Yukon	4	3	3	8

Table D

Number of Children Ages 0-21 Years by School District and Academic Year

State of Oklahoma Child Count Data

Visually Handicapped

District	1981-82	1982-83	1983-84	1984-85
Bethany	-	-	-	-
Choctaw	-	-	-	-
Crooked Oak	-	-	-	-
Crutcho	-	1	1	-
Deer Creek	1	1	1	-
Edmond	3	4	2	3
Guthrie	4	4	6	5
Harrah	-	2	1	2
Jones	-	-	-	-
Luther	-	-	-	-
Mid/Del	-	1	-	1
Millwood	-	-	-	-
Mustang	2	2	2	2
Oakdale	-	-	-	-
OKC	19	17	27	25
Piedmont	-	-	-	-
Putnam City	6	7	6	7
Western Heights	1	2	1	1
Yukon	2	-	-	1

A P P E N D I X D

Advantages to Formulating an Inter-Agency Cooperative for Serving Secondary Hearing Impaired Students

ADVANTAGES TO FORMULATING AN INTER-AGENCY COOPERATIVE FOR SERVING SECONDARY HEARING IMPAIRED STUDENTS

1. Formulation of a cooperative could reduce the per pupil cost for educating hearing impaired students. Although educational costs may continue to rise, the ratio cost of special education to regular education can be reduced.
2. The quality of services could be enhanced by:
   (1) Availability of needed professionals with specific expertise in working with hearing impaired students.
   (2) Personnel more responsive to problems/needs of students of a specific age group.
   (3) Additional instructional support such as interpreters, and tutors/aides.
   (4) Additional specialized instructional support equipment on loan from sending schools.
   (5) Increase the educational program scope through expansion of educational opportunities via interpreters, and additional programs such as vocational training.

Note. See advantages and disadvantages of specific cooperative alternatives specified in Chapter VI.

A P P E N D I X E

Barriers/Hindrances to Operating Cooperatives

BARRIERS/HINDRANCES TO OPERATING COOPERATIVES

1. "Turf possession"/territoriality
    (1) Lack of concern for what is best for students
    (2) Program ownership more important than service to students
2. Lack of organizational readiness
    (1) Administrative inertia
    (2) Preconceived role rigidity
    (3) Lack of appropriate complementary and related services
3. System shock
4. Interpersonal roadblocks
    (1) Professional insecurity
    (2) Rivalry
    (3) Interpersonal conflicts
    (4) Lack of understanding of differing theoretical orientations
5. Lack of trained personnel with effective leadership skills and cooperative attitudes
6. Inadequate information flow and poor public relations program
7. Inadequate administrative structure
    (1) Lines of authority not appropriately delineated
    (2) Lack of role clarification
    (3) Tendency to becoome "overloaded" with administrative personnel
    (4) Inability to function as a team due to domination by a few
    (5) Lack of development of procedural guidelines and flow charts
8. Transportation barriers

(1) Distance students are transported

(2) Amount of time in transit

(3) Use of district vehicles in transporting students to another district

(4) Vehicles with necessary adaptions for transporting clientele

(5) Parental arrangements

(6) Insurance considerations

9. Uprooting of students by not serving them in their own LEA and possible increase in due process hearings

10. Lack of active parental involvement

11. Cultural conflicts

Note. Items adapted from: Information Dissemination Packet by Vicky L. Ordell. Department of Special Education, Indiana Univ., 1980. Periscope: Views of the Individualized Educationa Program, edited by Bluma B. Weiner. Council for Exceptional Children, Reston, Virginia, 1978.

A P P E N D I X F

Recommendations for Formulating an Inter-Agency Cooperative

RECOMMENDATIONS FOR FORMULATING AN INTER-AGENCY COOPERATIVE

1. Well defined statements of goals and objectives.
2. Development of guidelines and contractual agreements for an interagency cooperative.
3. Establishment of essential components of a service delivery system model.
    (1) Educational structure and programs delineated
        1) Service delivery systems options identified and preferential options selected.
        2) Related and support services delineated
        3) Assessment personnel, tools, techniques and system identified
    (2) Administrative structure established with essential personnel designated with job descriptions
    (3) Model plans for parent involvement developed
    (4) Development of a transportation model
    (5) Development of a tuition transfer cost model and operating budget.
    (6) Development of a public relations program
    (7) Development of procedural guidelines and flow charts

4. Administrative Structure

(1) Metro Area Board

1) Composed of superintendents of participating LEAs

2) Four meetings scheduled per year with reponsibility for:

(1 Development, initiation, and review of operational policies and guidelines

(2 Periodic review of program operations

(3 Appointment of an Advisory Council

(4 Appointment of a Director upon recommendation of the Advisory Council

(5 Appointment of all staff members upon recommendation of the Director and Advisory Council

(2) Advisory Council

1) Composed of seven LEA representatives which include: four ODSS members; one member knowledgeable of school finance; one member knowledgeable of school legal problems; and one member knowledgeable of school transportation problems

2) Monthly meetings scheduled with responsibility for program administration

(3) Coordinator

1) Authority Structure - Coordinator under authority of Advisory Council and responsible to Metro Area Board

2) Responsible for supervision of staff specialists, secretary, and financial director.

3) Responsible for program administration

5. Financial Structure

(1) Current operating expenss supplied through tuition fees based on the formula ratio concept proposed in this report

(2) Capital facilities - Use of existing plant facilities with an appropriate proportion of the tuition fees disbursed to districts wherein instructional centers are established.

A P P E N D I X G

Proposed Tuition Formula

PROGRAM MANAGEMENT INFORMATION SYSTEM

Responsible Coordinator: _____ Quarter/Semester: ____ School Year: _____ Building & Program Model: _____

	Student Name	Address	Resident District	EC	Feeder School	Wt	x̄ 1.0 $	Total Gen. $$	Sp. Ed. $$	Sp. Trans. Yes/No	Sp. Tr. Est. $ Cost	Entry Date	Exit Date
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													
23													
24													
25													

PROGRAM STATUS

Total $ Expended: $ - Total $ Available = $

$ Flow Status: $

$ Tuition Income: $

Program Status: $

x̄ Program Cost Day: $ - = $

x̄ Cost Day Student: $ - = $

Projected Annual Expenditure: $ x = $

Projected Annual $ Available: $ x = $

Projected Annual Tuition Receipts: $ x = $

Projected Annual Program Status: $ - $ = $

$ (cost - tuition received)

$ ($ available)

$

INDEX OF EXPENDITURES

Teacher Name: _____

Principal Index: $ _____

Supervisor Index: $ _____

Teacher Travel: $ _____

Teacher Index: $ _____

Sub. Teacher (qtr.): $ _____

Teacher Aide Index: $ _____

Custodian Index: $ _____

Tchr. In-Charge Index: $ _____

Sp.Ed. Secr'y Index: $ _____

Inst. Support Index: $ _____

*Transportation Index: $ _____

Utilities Index: $ _____

Voc. Teacher Index: $ _____

**Ind. Cost Index: $ _____

Lease Index: $ _____

Supply/Materials/Equipment Expenditures

Date: ___/___ $_____ Date: ___/___ $_____

Date: ___/___ $_____ Date: ___/___ $_____

NONRESIDENT STATEMENT

Total $ Expended: $ (see indices)

Tuition Statement: $ = $

Projected Annual Tuition: $ x = $

Nonresident Cost Day: $ ÷ = $

Tuition-In Receipts

___/___ $_____ ___/___ $_____
Month Amount Month Amount

___/___ $_____ ___/___ $_____
Month Amount Month Amount

*not computed for nonresidents

**computed for nonresidents

x̄ Program Cost Month: July: $_____ August: $_____ September: $_____ October: $_____ November: $_____

December: $_____ January: $_____ February: $_____ March: $_____ April: $_____ May: $_____ June: $_____

CUMULATIVE PROGRAM COST THIS QUARTER/SEMESTER $_____

CUMULATIVE PROGRAM FISCAL STATUS THIS SCHOOL YEAR $_____

White - DOSE
Yellow - Assistant Superintendent
Pink - Coordinator

12 - 83 P.P.

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